

Appln No. 09/775,315

Amdt date August 23, 2004

Reply to Office action of April 21, 2004

REMARKS/ARGUMENTS

In the Office action dated April 21, 2004, the Examiner rejected claim 10 under 35 U.S.C. § 103(a) as allegedly obvious over Mayer (U.S. Patent No. 5,783,333). Applicant has amended claim 10 to clearly recite that both the lithium nickel cobalt oxides and the lithium manganese oxides are heat treated. The Examiner relies on Mayer to disclose the claimed thermal reaction at a temperature of between 500°C and 1300°C. However, the thermal reaction apparently disclosed in Mayer is the thermal reaction of several raw materials to form lithium nickel cobalt metal oxide. (Column 11, lines 43-45). This lithium nickel cobalt metal oxide is then used in addition to a lithium manganese oxide to form a composite positive electrode. (Column 8, lines 64-66). The lithium nickel cobalt metal oxide and the lithium manganese oxide are not reacted. Rather, they remain "distinct chemical species" capable of physical separation. (Column 8, lines 42-46). In contrast, claim 10 recites the chemical bonding of the lithium nickel cobalt oxides and the lithium manganese oxides.

In addition, Mayer appears to disclose a lithium nickel cobalt metal oxide for use in a positive electrode. (Column 8, lines 64-66). The metal, M, in the lithium nickel cobalt metal oxide is selected from the group consisting of aluminum, titanium, tungsten, chromium, molybdenum, magnesium, tantalum, silicon, and combinations thereof. (Column 6, lines 15-20). Manganese is not included in this group. In contrast, claim 10 recites a lithium nickel cobalt oxide, not including the additional metal. Accordingly, applicant respectfully submits that claim 10 is allowable over Mayer.

The Examiner also rejected claims 1-4 under 35 U.S.C. § 103(a) as allegedly unpatentable over Pynenburg et al. (U.S. Patent No. 5,429,890) in view of Hasegawa et al. (U.S. Patent No. 5,370,948). Applicant has amended independent claim 1 to remove the limitation that the materials forming the positive active material be "chemically bonded". Applicant has further amended claim 1 to clearly recite that the weight ratio of lithium manganese oxides to lithium nickel manganese oxides provides an excess of lithium nickel manganese oxides. This excess of lithium nickel manganese oxides prevents leakage of manganese from the lithium manganese

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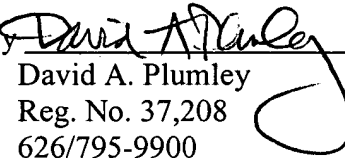
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oxides and imparts improved cycle life characteristics to the positive active material at high temperatures. Neither Pynenburg nor Hasegawa teach or suggest such a feature. Accordingly, applicant respectfully submits that independent claim 1, and all claims dependent therefrom, including claims 2-4, are allowable over Pynenburg and Hasegawa.

Claims 1-4 and 10 remain in this application. Applicant has amended claim 2 solely to correct a minor typographical error. For the reasons set forth above, applicant submits that all remaining claims are in condition for allowance. However, if there are any remaining issues, the examiner is asked to contact applicant's counsel at the number below.

Respectfully submitted,

CHRISTIE, PARKER & HALE, LLP

By 
David A. Plumley
Reg. No. 37,208
626/795-9900

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